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AMSAT NEWS SERVICE
ANS-209

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-209.01
ANS-209 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 209.01
>From AMSAT HQ SILVER SPRING, MD.
DATE July 28, 2013
To All RADIO AMATEURS
BID: $ANS-209.01

AMSAT Submits Comments to the US Government on ITAR Transition

On May 24, 2013 the Department of State's Directorate of Defense Trade Controls (DDTC) released proposed changes to the US Munitions List (USML) Category XV ("Spacecraft Systems and Related Articles"), redefining what constitutes satellites that would remain under the USML. Satellites removed from USML will be transferred to the Department of Commerce's Commerce Control List (CCL). Consequently, the Department of Commerce's Bureau of Industry and Security (BIS) also released proposed changes on May 24, 2013 regarding modifications to the Commerce Control List, creating a separate category for satellites that were formerly controlled under ITAR (International Traffic in Arms Regulations).

AMSAT President Barry Baines, WD4ASW and AMSAT Congressional Liaison

Peter Portanova, WB2OQQ took on the task of drafting comments in response to the combined 105 pages of "bureaucratize" drafted by the DDTC and the BIS. Former AMSAT President Bill Tynan, W3XO crafted initial comments that provided a starting point. Peter, using various points of contact in Washington to help gauge how AMSAT might submit remarks, made recommendations on the crafting of AMSAT's response. Barry then wrote two different drafts, one addressed to the DDTC in response to the USML changes, requesting confirmation that Amateur Satellite Service spacecraft and associated equipment will be removed from the USML. The other document is addressed to the BIS in response to the proposed changes to the CCL, suggesting that Amateur Satellite Service spacecraft and associated equipment be separately categorized and controlled given the significant differences between Commercial and Amateur Satellite Service spacecraft. Both drafts were initially reviewed by the AMSAT Board of Directors with the final versions submitted on 6 JUL 13.

If you would like to review both submissions they have been placed on the AMSAT website (www.amsat.org). In addition, AMSAT's submission to BIS (along with the comments of others) may be viewed at: http://tinyurl.com/k75u2go

AMSAT's submission to the DDTC along with other interested parties may be found here: http://tinyurl.com/lxobvxh

Note that this PDF contains "all" comments received; AMSAT's comments start on page 138.

Both DDTC and BIS will now review the comments received and presumably make modifications to the original proposals. It will likely take several months before both agencies respond to the comments that they've received.

[ANS thanks Barry WD4ASW for the above information]

ARISS Leadership from AMSAT and ARRL to be on-hand for EAA Airventure ARISS contact

ARISS International Chair and AMSAT V.P. for Human Spaceflight, Frank Bauer, KA3HDO and ARISS U.S. delegate for the ARRL, Rosalie White, K1STO, will be supporting this week’s ARISS Contact in Oshkosh Wisconsin at Airventure, the Experimental Aircraft Association’s (EAA) annual airshow and convention, which normally hosts 500,000 visitors each year. Possessing private pilot and amateur radio licenses, Frank and Rosalie independently planned to attend Airventure this year, long before the ARISS contact was planned. “My wife Janet and I have attended Airventure 3 years straight,” Frank stated. “It is an outstanding opportunity for us to immerse ourselves in all things aviation. And it enables me to hone one of my other passions, amateur photography. When Rosalie and I heard that a contact was planned for Airventure and we learned that we were both planning a trip to Airventure, we jumped at the chance to mentor the EAA team.”

While they will plan to keep a bustling agenda of “all-things aviation,” Frank, Janet and Rosalie will be focused on the ARISS contact. Planned for 12:01 CT on August 1, the contact will be conducted using the telebridge station AH6NM at the Sacred Hearts School in Hawaii. ISS astronaut Luca Parmitano, KF5KDP, plans to be at the microphone during the contact. The ARISS contact will be held

as part of EAA's Science, Technology Engineering and Math (STEM) initiative, where the focus on August 1 is space—past present and the future. Students attending the contact will include 125 women and their mentors from the EAA's Women Sour group and students from Flabob Airport High School and Lakeland Aviation High School. Several former astronauts will also on-hand for the contact, including Charlie Precourt, KB5YSQ, who supported SAREX (STS-55 & STS-71), Jim Voss, who supported ARISS (Expedition 2) and Kent Rominger. They will share their experiences as former astronauts and leaders in NASA's Commercial Crew program. They will also provide the students a unique view of what it is like to perform SAREX and ARISS contacts from orbit.

ARISS is an international STEM outreach program that is jointly sponsored in the U.S. by NASA, ARRL and AMSAT-NA.

[ANS thanks Frank KA3HDO for the above information]

July/August AMSAT Journal is Ready

The July/August 2013 AMSAT Journal has been sent to the print shop. They are getting geared up for the production printing run. It should arrive at your QTH in a few weeks. Thanks for all the help from the Journal's editorial team: Bernhard VA6BMJ, Mike K4ERA, and Douglas KA2UPW/5.

In this issue you will find:

+ Apogee View Column by AMSAT President Barry Baines
+ AMSAT-Rochester Institute of Technology Academic Team Complete Fox-2 MPPT Prototype
+ Fox-1 Attitude Determination Experiment Simulator
+ A Full-Duplex VHF-UHF Satellite System Using SDR
+ NASA-Built Nanosatellite Launch Adaptor System Ready for Flight
+ AMSAT Forum at the 2013 Dayton Hamvention
+ 2013 AMSAT Space Symposium and Annual General Meeting Announcement
+ AMSAT on Campus - Development of the Penn State Supercapacitor Power System
+ Thanks to AMSAT's 2013 Dayton Hamvention Volunteers!
+ Photo Gallery: AMSAT at the 2013 Dayton Hamvention

[ANS thanks JoAnne K9JKM for the above information]

2013 AMSAT-NA Board of Directors Ballot Has Been Mailed

Ballots were mailed to members in good standing by July 15th, and must be returned to the AMSAT-NA office no later than the close of business on September 15th, 2013. If you have not received your ballot by August 5th, please contact the AMSAT Office. Ballots sent to members outside North America are automatically sent via air mail. It is suggested that they be returned the same way.

This year there are eight candidates running for the AMSAT-NA Board of Directors. The four candidates receiving the highest number of votes will be seated as voting Board Members with two year terms. The two candidates receiving the next highest number of votes will be

non-voting Alternate Board Members with terms of one year. Please vote for no more than four candidates.

AMSAT-NA Board candidates in alphabetical order by last name:

Barry Baines, WD4ASW
Alan Biddle, WA4SCA
Steve Coy, K8UD
Frank Griffin, K4FEG
Mark Hammond, N8MH
Brian Klofas, KF6ZEO
JoAnne Maenpaa, K9JKM
Tony Monteiro, AA2TX

[ANS thanks the AMSAT Office for the above information]

STRaND-1 Heard After 113 Days of Silence

Graham Shirville, G3VZV, announced on the AMSAT-BB that Mike DK3WN has just reported hearing STRaND-1 and decoding telemetry this evening. The spacecraft has been silent since March 31st so this is really good news.

I am certain that the project leader, Dr Chris Bridges, who presented a paper about STRaND-1 at the AMSAT-UK Colloquium last Sunday, would be really pleased to receive any and all reports from other amateurs around the world.

Mike has an info page about this spacecraft here:
http://www.dk3wn.info/sat/afu/sat_strand.shtml

STRaND-1 transmits on frequency of 437.568 MHz (+/- 10 kHz Doppler)

Please send your reports to C.P.Bridges at surrey.ac.uk

A video of the presentation on STRaND-1 given on July 21 by Chris Bridges M6OBC / M0GKK to the AMSAT-UK International Space Colloquium can be seen via:
http://amsat-uk.org/2013/07/23/uk-strand-1-cubesat-is-back/

Download the video by right-clicking on
http://www.batc.tv/vod/strand.flv

See the report from Mike Rupprecht DK3WN
http://www.dk3wn.info/p/?p=35582

STRaND-1 information
http://amsat-uk.org/satellites/strand-1/

How to decode the telemetry
http://amsat-uk.org/satellites/strand-1/strand-1-telemetry/

[ANS thanks Graham G3VZV, Mike DK3WN and Trevor M5AKA for the above information]

Slime Mold Satellite gets into the media

A brief mention of the Slime Mold CubeSat posted last March on the AMSAT-UK and Southgatearc.org sites has been picked up by one of the Space.Com website writers, Leonard David, who has written a good article which retained a mention of amateur radio.

It's Summer in the northern hemisphereand media outlets can be short of stories at this time of year so Leonards story has in turn been picked up by a few other news outlets and hopefully that will spread. I guess the thought of Slime in Space captures the imagination.Most of the resulting stories seem to have retained the mention of amateur radio.

You can read Leonard David's article at
http://www.space.com/21982-space-slime-grows-mold-tiny-satellite.html

March AUK mention
http://amsat-uk.org/2013/03/15/teikyosat-3-slime-mold-from-space/

[ANS thanks Trevor M5AKA for the above information]

QB50: Ham Radio transponder payloads to launch 2014

It was announced during the QB50 presentation at the AMSAT-UK International Space Colloquium that
two CubeSats, carrying SSB/CW and FM voice transponders should be launched into a 600 km orbit in the first half of 2014

The QB50 project team has announced that on July 19, 2013 they signed a Memorandum of Understanding with AMSAT-UK, AMSAT-Francophone, and AMSAT-NL to enable two amateur radio payloads to fly on two 2-Unit CubeSats in the first half of 2014.

These precursor CubeSats, which have still to be named, will be placed into a conventional 600 km 98o orbit in advance of the main mission. This allows for the testing of key satellite and payload components ahead of the full QB50 mission.

In addition, the precursor mission allows for experimentation and validation of operational concept of the QB50 mission. Next to these objectives the amateur radio payloads will be operated as well. At the beginning of the mission, the various payloads onboard the spacecraft will be operated in an alternating fashion, whilst the amateur radio payloads will be operated as the primary payload of the spacecraft once all QB50 related experimentation has been concluded.

The main mission of QB50 has the scientific objective to study in situ the temporal and spatial variations of a number of key constituents and parameters in the lower thermosphere (90-320 km) with a network of about 40 double CubeSats.

These, university built, CubeSats will be launched into a 320km circular orbit, will be separated by a few hundred kilometres and carry identical science sensors. The sensors will monitor parameters that will greatly increase our knowledge and understanding of this little explored region of the E and F layers of the Ionosphere.

QB50 will also study the re-entry process by measuring a number of key parameters during re-entry and by comparing predicted and actual CubeSat trajectories and orbital lifetimes.

The AMSAT-Francophone (AMSAT-F) payload for one of the satellites will be an FM voice relay with VHF uplink and UHF downlink. It will also transmit FX25 telemetry at 9.6kbit. This secondary payload will be also used in several satellites in the main constellation as their main receiver and transmitter.

The AMSAT-NL payload, on the other precursor satellite, will incorporate an SDR based, linear, V/U, transponder core and is being designed to allow the uploading of firmware updates to enable enhanced performance and functionality. It will also provide a telemetry downlink at 1.2kbit using FUNcube compatible BPSK modulation.

The QB50 spacecraft in the main, short duration, mission will, generally, have downlinks operating on frequencies in the 435-438 MHz Amateur Satellite Service allocation and some are expected to use 2.4GHz.
They will be notified to the ITU as a Belgian network after having been coordinated by the IARU Frequency Coordination Panel. Some of these will also, on occasions, act as FM voice relays during their missions.

Watch the video of the QB50 Presentation at the 2013 AMSAT-UK International Space Colloquium
http://www.batc.tv/streams/amsat1308
Direct video download http://www.batc.tv/vod/qb50.flv

More information about the QB50 project can be found at
http://www.qb50.eu/

[ANS thanks AMSAT-UK for the above information]

AMSAT-UK Colloquium Videos Now Available

Thanks to the hard work of volunteers from the British Amateur Television Club (BATC) videos of the presentations given to the AMSAT-UK International Space Colloquium held in Guildford July 20-21, 2013 are now available to view online or download to your PC.

To access them follow these steps:
• Go to http://www.batc.tv/
• Click on the ‘Film Archive’ icon
• Select ‘AMSAT-UK 2013' from the Category drop down menu
• Click ‘Select Category’
• Select the video you wish to watch
• Click on ‘Select Stream’
• Click the play icon ‘>’ on the player
• Clicking on the icon to the left of the player volume control will give you full screen display.

You can also download a video file to your PC by right-clicking on the ‘Click Here’ link under the player.

[ANS thanks Trevor M5AKA and AMSAT-UK for the above information]

AMSAT members wave at Cassini

NASA asked people to wave at the Cassini space probe which was taking pictures from near Saturn. Attendees at the AMSAT-UK International Space Collquium responded enthusiastically

On Friday, July 19 between 21:27 and 21:47 UT NASA's Cassini spacecraft took images of Saturn, with the planet Earth in the background nearly 1.5 billion kilometers away. NASA encouraged the public to look and wave in the direction of Saturn at the time of the portrait and share their pictures via the Internet.

AMSAT-UK International Space Colloquium attendees were among the many world-wide who did just that.

NASA Interplanetary Probes to Take Pictures of Earth From Space
http://tinyurl.com/np6v38g

JPLers Wave at Saturn as Part of Worldwide Campaign
http://www.jpl.nasa.gov/news/news.php?release=2013-228

[ANS thanks Southgate Amateur Radio News for the above information]

ARISS News

Recent Successful Contacts

+ A Successful contact was made between Boy Scouts of America, 2013 National Jamboree, Mount Hope, WV, USA and Astronaut Luca Parmitano, KF5KDP, using callsign NA1SS. The contact began 2013-07-20 15:34 UTC and lasted about nine and a half minutes. Contact was direct via K2BSA. The ARISS mentor for the contact was W2CYK.

+ A Successful contact was made between Colegio Urugua, El Pinar, Uruguay and Astronaut Luca Parmitano, KF5KDP, using callsign NA1SS. The contact began 2013-07-20 19:05 UTC and lasted about nine and a half minutes. Contact was telebridged via LU8YY. The ARISS mentors for the contact were IKØWGF and IKØUSO.

+ A Successful contact was made between Scuola Italiana di Montevideo (SIM), Montevideo, Uruguay and Astronaut Luca Parmitano, KF5KDP using callsign NA1SS. The contact began 2013-07-22 11:39 UTC and lasted about nine and a half minutes. Contact was telebridged via VK5ZAI. The ARISS mentors for the contact were IKØWGF and IKØUSO.

+ A Successful contact was made between ESA Space Camp 2013, Radstadt, Austria, and Astronaut Luca Parmitano, KF5KDP using callsign NA1SS. The contact began 2013-07-24 11:44 UTC and lasted about nine and a half minutes. Contact was telebridged via VK4KHZ. The ARISS mentor for the contact were IN3GHZ.

+ A Successful simulation contact was made between Radioclub of Leuven, Leuven, Belgium and Alexander Gerst KF5ONO. The contact ocurred 2013-07-22 between 18:30 and 19:30 UTC. Contact was direct via ON4CP. This terrestrial contact served as a training session for Alexander Gerst KF5ONO, who is expected to serve as a Flight Engineer with Expedition 40 scheduled to launch in April 2014.

+ A Successful simulation contact was made between Radioclub of Leuven, Leuven, Belgium and Reid Wiseman KF5LKT. The contact ocurred

2013-07-22 between 18:30 and 19:30] UTC and lasted about ten minutes. Contact was direct via ON4CP. This terrestrial contact serves as a training session for Reid Wiseman KF5LKT, who is expected to serve as a Flight Engineer with Expedition 40 scheduled to launch in April 2014.

Upcoming Contacts

+Italian Bilingual School, Leichhardt (Sydney), NSW, Australia, telebridge via VK5ZAI
Contact is a go for: Tue 2013-07-30 08:26:02 UTC
OR
Contact is a go for: Wed 2013-07-31 07:37:40 UTC

+Oshkosh Air Venture Air Show, Oshkosh, Wisconsin, telebridge via AH6NM
Contact is a go for: Thu 2013-08-01 17:01:31 UTC

+Space Jam 7 at the Octave Chanute Aerospace Museum, Rantoul, IL, telebridge via LU8YY
Contact is a go for: Sat 2013-08-03 20:46:15

ARISS is requesting listener reports for the above contacts. Due to issues with the Kenwood radio that are not fully understood at present, the Ericsson radio is going to be used for these contacts. ARISS thanks everyone in advance for their assistance.

Looking for something new to do? How about receiving DATV from the ISS? If interested, then please review the document provided by Gaston Bertels ON4WF, the ARISS-Europe Chairman.

http://www.amsat.org/amsat/ariss/news/HamTV.pdf

Crew members currently onboard the ISS

Exp. 35/36 on orbit
Pavel Vinogradov RV3BS
Aleksandr Misurkin
Christopher J. Cassidy KF5KDR

Exp. 36/37 on orbit
Fyodor Yurchikhin RN3FI
Karen L. Nyberg
Luca Parmitano KF5KDP

[ANS thanks ARISS, Charlie AJ9N and Dave AA4KN for the above information]

Satellite Shorts From All Over

+++ Satellite Operation from Guernsey

>From Peter Goodhall via AMSAT-BB

Hi All,

Just a quick note to say that from the 24th of July till the 30th of July, I will be active sporadically on satellite passes from Guernsey (IN89RL) as 2U0SQL.

I shall be focusing on FO-29 and SO-50 passes but no firm pass times, but hopefully will have internet access and will try posting on Twitter (@2E0SQL) when I'll be on.

Due to this being camping I will be battery powered using a FT-817 and an Arrow antenna.

If anyone needs a QSL Card its direct to 2E0SQL or bureau.

+++ iPhone, iPad, iPod Touch 'Satellite Explorer Pro' app

>From Tom Doyle via AMSAT-BB

iPhone, iPad, iPod Touch 'Satellite Explorer Pro' app is available in the Apple app store. It is free.
Video: http://www.youtube.com/watch?v=pRM16bIucQ8

+++ Gospodin Murphy was right!

>From Alan WA4SCA via AMSAT-BB

An interesting article on the recent launch failure of a Proton-M:
http://preview.tinyurl.com/kt5x9hw
The latest in a long line of bizarre, expensive errors in the world launch business.

+++ D-STAR AMSAT User's Net

D-STAR AMSAT User's Net meets Thursday Evenings @ 01:00 UTC / 20:00 CDT, Reflector 60B
https://sites.google.com/site/memphisdstar/d-satellite-amsat-net
If you do not have a d star radio or dv dongle ,you can still checkin using drats , The down load is on the above link Meet us in the "dratsamsat" chat room. For more information contact
Damon WA4HFN, wa4hfn at comcast dot net

+++ July/August Issue of SatMagazine Is Now Online

Download it in PDF format from http://www.satmagazine.com/

+++ DARPA Seeks to Eliminate GPS Dependence

The same impulse that led to the invention of GPS now has engendered a drive to beget non-GPS. Because of vulnerability to jamming, spoofing, and other intentional or unintentional modifications of position, orientation, and time information, DARPA has put forth a new goal "to completely eliminate dependence on GPS or any other external signals during the mission and rely solely on self-contained solutions such as inertial navigation."
Read more at http://tinyurl.com/ms8t6yz

[ANS Thanks Alan Cameron and GPS World for the above information]

+++ AMSAT Mentions in the Press

World Radio Online August 2013

Carole Perry's WB2MPG article "Great Expectations Fulfilled" is about presenters at Dayton's Youth Forum. In his forum presentation, "Getting Started with Amateur Radio Satellites" Young Ben Jacobs KC9RO recommends "... http://amsat.org as the best resource for more information."

In his column "Amateur Satellites" Terry Douds N8KI mentions AMSAT's

YouTube Channel, the upcoming AMSAT Space Symposium in Houston, and the Fox-1 launch announcement.

CQ VHF Spring 2013

CQ VHF many articles related amateur radio satellites. Catch Hector Martinez's CO6CBF "Working Satellites with a Homebrew Setup Cuban Style" He retools his presentation from last year's Symposium.

In Christopher Friesen's VE4CWF "Building The Slap Shot - A HockeyStick Satellite Antenna" He suggests "... with AMSAT working on two satellites, and plans to depoly them in the next few years, now is the time to build a satellite antenna and begin operating."

Keith Pugh W5IU offers "What to do While Waiting for the Next Satellite or the next Band Opening". Amongs other activities he mentions the Dayton Hamvention Forums, the Houston AMSAT Space Symposium November 1, the AMSAT UK Space Colloqium which just finished up and makes an appeal to continue to "... support AMSAT's plans for the future of amateur radio satellites," as well as refering to AMSAT's newly designed web page at http://www.amsat.org.

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the stu-dent rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org